UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,554	12/20/2003	Jordi Marti Adell	04656	1553

23688 7590 01/13/2005

Bruce E. Harang
PO BOX 872735
VANCOUVER, WA 98687-2735

EXAMINER	
TSUKERMAN, LARISA Z	
ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,554	ADELL, JORDI MARTI	
	Examiner	Art Unit	
	Larisa Z Tsukerman	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5,7-9,11-14 and 16-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5,7-9,11-14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 19, 3 -5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus et al. (6280253) in view of Panella et al. (6095821).

In regard to claim 19, Kraus et al. disclose a flat female 150 terminal for inserting in a printed circuit board 66 for mounting electrical components 162 comprising:

a body portion (not marked) having two ends and two sides comprising : two resilient arms 42-64 (see Fig.1 and 9-a) in spaced relationship located on one end of the body portion (not marked), the arms being beveled on their inner portion and the inner portion of each of the resilient arms facing each other (see Fig.1 and 9-a);

one pin 40/156 located on the end of the body portion opposite the two resilient arms 64 being suitable for inserting into a complimentary bore on a printed circuit board 66, the at least one pin 40/156 being further characterized as having a shape the end of which is dimensioned smaller than the complimentary bore of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the at least one pin and the complimentary bore 68 on the printed circuit board 66 (see Col. 3, lines 51-60);

a support projection (not marked) located on each side of the body portion suitable for interacting with a female terminal insertion tool for mounting the female terminals 150 in a printed circuit board 66 (see Fig. 9-a). However, Kraus et al. lack two pins located on the end of the body portion. Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include two pins contact of Panella et al. in structure of Kraus et al.

In regard to claim 3, Kraus et al. modified by Panella et al. disclose two pins 72 is beveled on the end (see Fig.5).

In regard to claim 4, Kraus et al. modified by Panella et al. show a plurality of the flat female terminals are connected in a ribbon 12 or 14 by the projection areas of the body portions (see Fig.1) and forming a continuous coil-shaped wound band of the flat female terminals (see Fig. 12).

In regard to claim 5, Kraus et al. modified by Panella et al. show the projections (not marked) are formed by cutting a single flat female terminal from a strip of connected flat female terminals, which is well- known conventional method to make this type of terminals.

In regard to claim 7, Kraus et al. modified by Panella et al. disclose at least two pins 72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

Claims 1 – 3 and 7 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zanolli (6206735) in view of Panella et al. (6095821).

In regard to claim 1, Zanolli discloses a flat female terminal 10 for inserting in a printed circuit board for mounting electrical components comprising:

a body portion (not marked, see Fig. 1) having two ends and two sides comprising: two resilient arms 10' in spaced relationship located on one end of the body portion, the arms 10' on their inner portion being beveled and the inner portion of each of the resilient arms facing each other (see Fig.1);

one pin 10" located on the end of the body portion opposite the two resilient arms 10', one pin 10" being suitable for inserting into a complimentary bore on a printed circuit board, the least one pin 10" being further characterized as having a shape the end of which is dimensioned smaller than the complimentary bore of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the at least one pin 10" and the complimentary bore on the printed circuit board (see Col.1, lines 10-15-20);

and a support projection 12 located on each side of the body portion suitable for interacting with a female terminal insertion tool (see Col. 1, lines 34-35) for mounting the terminals in a printed circuit board. However, Zanolli lacks two pins located on the end of the body portion. Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

was made and for the same reason to include two pins contact of Panella et al. in structure of Zanolli

In regard to claim 2, Zanolli modified by Panella et al. discloses the at least two pins 10"/72 has a width slightly larger than the diameter of a complimentary bore on a circuit board (see Col.1, lines 10-15-20).

In regard to claim 3, Zanolli in view of Panella et al. discloses the at least two pins 10" is beveled on the end (see "34" in Fig.1).

In regard to claim 7, Zanolli modified by Panella et al. discloses at least two pins 72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

In regard to claim 8, Zanolli modified by Panella et al. discloses the distance of the spaced relationship between the arms 10' is inherently selected according to the type of component to be inserted between them.

In regard to claim 9, Zanolli modified by Panella et al. discloses the terminal 10 is comprised of a material **inherently** having a desired resiliency and a desired electrical conductivity.

Claims 11, 12, 16 – 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leibowitz (4944684) in view of Panella et al. (6095821).

In regard to claim 20, Leibowitz discloses a flat female 16 terminal for inserting in a printed circuit board 14 for mounting electrical components 30 or 32 comprising:

a body portion (not marked) having two ends and two sides comprising : two resilient arms 22 in spaced relationship located on one end of the body portion, the arms being beveled on their inner portion and the inner portion of each of the resilient arms facing each other (see Fig.2A);

one pin 36 located on the end of the body portion opposite the two resilient arms 22 being suitable for inserting into a complimentary bore on a printed circuit board 14, the pin 36 being further characterized as having a shape the end of which is dimensioned smaller than the complimentary bore of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the one pin and the complimentary bore on the printed circuit board (see Col. 4, lines 59-62);

a support projection 34 located on each side of the body portion suitable for interacting with a female terminal insertion tool for mounding the female terminals 16 in a printed circuit board 14; and

a shoulder (not marked, see Fig.2B, area below 34) located on each side of the body portion at the end having the at least one pin 36 mounted thereto having a dimension greater than **the base** of the at least one pin and **less** than the dimension of the support projection 34 thereby providing **a space** between the printed circuit board 14 and the support projections 34 **allowing for** the introduction of **conductor bridges** and the like. **This arrangement** meets the structural requirements of the claim including **a space, as shown in Figs. 1, 2A and 2B,** thereby allowing introduction of a structure including the conductive bridge, as claimed. However, Leibowitz lacks that two pins located on the end of the body portion opposite the two resilient arms.

Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include two pins contact of Panella et al. in structure of Leibowitz

In regard to claim 11, Leibowitz modified by Panella et al. discloses the at two pins 36 have a width slightly larger than the diameter of a complimentary bore on a circuit board (see Col. 4, lines 59-62).

In regard to claim 12, Leibowitz modified by Panella et al. discloses the two pin 36 is beveled on the end (see Fig.2A).

In regard to claim 16, Leibowitz modified by Panella et al. discloses at least two pins 36/72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

In regard to claim 17, Leibowitz modified by Panella et al. discloses the distance of the spaced relationship between the arms 22 is **inherently** selected according to the type of component to be inserted between them.

In regard to claim 18, Leibowitz modified by Panella et al. discloses the terminal 16 is comprised of a material **inherently** having a desired resiliency and a desired electrical conductivity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13 - 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Leibowitz (4944684) and Panella et al. (6095821). as applied to claim 20 above, and further in view of Kraus et al. (6280253)..

In regard to claim 13, Leibowitz modified by Panella et al. discloses most of the claimed invention except it does not show how a plurality of the flat female terminals connected in a ribbon.

Kraus et al. show a plurality of the flat female terminals are connected in a ribbon by the projection areas of the body portions forming a continuous coil-shaped wound band of the flat female terminals. Therefore, it would have been **obvious** to one having ordinary skill in the art at the time the invention was made **to include** a step of connecting female terminals in a ribbon by the projection areas of the body portions in Leibowitz structure **in order** to the strip would not be broken unintentional. Also, the official notice is taken that forming a continuous coil-shaped wound band the flat female terminals **is conventional way** to store and transport the strips.

In regard to claim 14, Leibowitz modified by Panella et al. discloses the projections 34 are formed by cutting a single flat female terminal 18 from a strip of connected flat

female terminals, which is **well- known conventional method** to make this type of terminals.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (571)-272-2015. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on (571)-272-2800 ex. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT
01/07/2005

THO D. TA
PRIMARY EXAMINER